



Recreational Drugs and Anti-HIV Medication

Protease Inhibitors are known to have significant and well-documented interactions with a number of prescribed drugs. However, it is hard to find reliable facts about problems that can result from taking recreational drugs while on protease inhibitors, and/or other anti-HIV medications.

Research faces a number of difficulties:

- It is unclear how some illegal drugs are processed in the body (metabolised)
- Available information usually related to the pure form of the drug, e.g. MDMA rather than ecstasy – but 'street' drugs are rarely pure.
- The level of a particular chemical in 'street' drugs is not controlled – an ecstasy tablet may consist of pure MDMA or may contain very little.
- Government and drug companies are anxious not to be seen condoning illegal drug use
- Metabolisation of these drugs varies enormously from individual to individual. The enzymes involved in breaking down these chemicals work at different rates in different people.

Cannabis & LSD

There is no information available on interactions of these drugs with protease inhibitors although interactions may be possible. One of the main side effects of Efavirenz, for at least the first couple of weeks, has been described by some patients as a "feeling of being stoned, or "trippy". Cannabis, LSD or other 'mind altering drugs' could compound these effects.

Cocaine & Crack

There is thought to be little chance of an interaction between coke or crack and protease inhibitors however their use may cause you to forget to take your protease inhibitors. The enzyme, which breaks down these substances in the liver, is not noticeably affected by protease inhibitors. Some recent (test tube) research suggests that cocaine may cause HIV to multiply faster: it is not clear what this means for users.

Ecstasy & Speed

It is difficult to predict interactions of these drugs with protease inhibitors, as they are themselves a cocktail and the formulas can vary. Ecstasy is metabolised (processed) in the liver using a pathway that is partially blocked by ritonavir. This means that if the two drugs are taken together, ritonavir may inhibit (slow down) Ecstasy's metabolism, **resulting in two or three times the expected level of Ecstasy in the blood stream. This can be FATAL.** Ritonavir may also cause a large increase in the concentration of amphetamines (Speed type drugs). Drug interactions are likely to be worse during the first six weeks of ritonavir treatment because this is when blood levels of ritonavir are at their highest. It is probable that interactions will occur with other protease inhibitors, but there is very little information available. The interaction between non nucleoside reverse transcriptase inhibitors (NNRTI's) and Ecstasy is largely unknown, however nevirapine has the opposite metabolic effect to ritonavir, and speeds up the pathway through the liver, resulting in lower than usual blood levels of some other drugs. Delavirdine and efavirenz may also affect the way some recreational drugs are metabolised.

Crystal Meth

It is possible that crystal meth does not mix well with some antiretroviral medications as it is an amphetamine (see Ecstasy and Speed above). There have been a few case reports - but no comprehensive studies - involving individuals who died as a result of high blood concentrations of methamphetamine after taking ecstasy or crystal meth with one of these antiretrovirals. What we don't yet know is to what extent antiretrovirals affect methamphetamine drug levels, nor do we know to what extent methamphetamine affects antiretroviral drug levels in the body. If a decrease in antiretroviral drug levels occurs, this could translate into premature treatment failure, drug resistance, and disease progression. Crystal Meth use is also associated with a rapid fall of CD4 cells, greater risk taking behaviour and reduced adherence to medication.

Heroin

Ritonavir, while inhibiting the production of some liver enzymes, is known to induce (increase) the production of others, notably those involved in the breakdown of heroin. Heroin levels can decrease in users on ritonavir and lopinavir/r. **Heroin users should not increase their dose to compensate.** The metabolic rate will differ from person to person and increasing the dose of heroin creates a real risk of overdose.

Methadone

Methadone is known to increase levels of zidovudine (AZT) in the blood. In practice, the dose of zidovudine is not adjusted unless side effects are experienced (e.g. nausea, anaemia). Very little research has been done on the interactions between methadone and other nucleoside analogues but there have been no notified problems.

Protease inhibitors generally decrease methadone levels in the blood. Particularly if you are on ritonavir or lopinavir (Kaletra) the dose of methadone may need to be increased if there are signs of withdrawal. Nevirapine and efavirenz can also decrease the methadone levels in the blood. The dose of methadone may need to be increased if withdrawal effects are experienced. This usually occurs 7-10 days after starting nevirapine or efavirenz. Extra care needs to be taken with efavirenz as the side effects of this drug may be mistaken for methadone withdrawal. If you are on methadone you should not change your dose without first contacting your prescriber, usually your GP, Drug Dependency Unit (DDU) or drug service.

Benzodiazepines, Rohypnol, Anabolic Steroids and Ketamine

Sedatives like Valium (diazepam) and some 'benzos' interact with protease inhibitors and efavirenz resulting in an increase in their sedative effect and their use with these anti-retrovirals needs close clinical supervision, especially ritonavir. Temazepam levels are potentially halved and higher doses may be required to produce the same sedative effect. Dosage should not be increased automatically – close clinical supervision should be sought.

Protease Inhibitors, generally contribute to increased blood levels of and therefore possibly adverse effects with Rohypnol, Anabolic Steroids and Ketamine. It is possible, according to some US information that using ritonavir and Ketamine can cause a kind of acute chemically induced hepatitis or liver inflammation. Anything, which damages the liver, can be a serious problem for people with HIV, and especially if you take ritonavir.

Viagra

Viagra can interact with both prescription and recreational drugs. Ritonavir can raise levels of viagra by up to 300%, and the blood levels of viagra can stay very high for a much longer period of time. Pfizer, the manufacturers of ritonavir have recommended that patients on ritonavir should not exceed a maximum single dose of 25mg of viagra over a 48 hour period. Viagra can also interact with amyl and other nitrates (poppers). Using both of these together could cause dangerously low blood pressure, leading to dizziness, fainting, or even a heart attack or stroke. This may be made even worse whilst taking ritonavir or other prescription drugs that interact with viagra, such as ketoconazole, itraconazole and the anti-biotic erythromycin. Age and other factors like heart disease might also increase your risk.

GHB (gamma hydroxybutyrate)

Not a lot is known about GHB, although the most critical 'don't' in relation to this drug is don't mix it with alcohol. People have died from doing just that. But it's also potentially dangerous when mixed with drugs like ritonavir, which can affect how the liver deals with substances.

If you are taking anti-HIV medication:

- and prescribed methadone
 - or are going to take recreational drugs
- then speak to your doctor as it could affect your treatment regimen.

Sharing equipment

As well as the risk of transmission of HIV from sharing IV equipment, there is recent research to suggest that the Hepatitis C virus may be transmitted when drugs are snorted. If the tissues up the nose are traumatised, blood may be present which may not be visible to the naked eye. If this occurs when people share equipment the virus may be transmitted from one person to the other.

If you are worried about drug use and want to talk to someone here are some useful telephone numbers:

National Drugs Helpline (Freephone)	0800 77 66 00 24 hours
Mainliners	020 7582 5226 (Mon – Fri 10 – 6.00)
Smart Project	020 8677 9541 Mon, Tue, Wed Thu, 10 – 5.00, Fri 10 – 1.00
The Hungerford Project	020 7437 3523 Mon – Fri 10 – 5.30
Narcotics Anonymous	020 7730 0009

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